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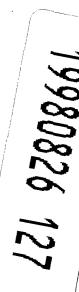
Worldwide Report

TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

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WORLDWIDE REPORT

Telecommunications Policy, Research and Development

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ROW OVER HIGH-TECH COMMUNICATIONS EQUIPMENT SUPPLIES

Hong Kong SOUTH CHINA MORNING POST in English 13 May 84 pp 1, 6

[Article by Jack Spackman]

[Excerpts] A row has raged between Hongkong and Washington in the past week, involving up to three departments of the US administration and a Hongkong company which wanted only to do business not create controversy.

Lined up on one side in the dispute are the US Commerce Department and American manufacturers of high technology who are keen to fill orders in Hongkong and other parts of Asia.

Ranged against them is the Defence Department which wants to maintain tight controls on hi-tech exports to prevent their possible use for military purposes by nations unfriendly to the US.

Caught in the middle is Cable and Wireless Systems, a local subsidiary of the London-based telecommunications giant, and its general manager, Mr Chris Cox.

American manufacturers of hi-tech equipment are eager to sell to companies like C and W Systems, who are engaged in major telecommunications projects in Asia.

Supporting the manufacturers is the Commerce Department, units of which have been involved in the past in Hongkong in helping to stage equipment exhibitions, many of them aimed at helping American companies tap into the China market.

Less eager, however, to see American technology being sold to just about anyone overseas is the Defence Department in Washington, which has succeeded over the years in having tough licensing procedures attached to exports of this type.

The export procedures frequently lead to unacceptable delays in deliveries.

Companies like C and W Systems, which face harsh monetary penalties if they run late installing some of this sophisticated equipment, naturally would like to see the logiam cleared away in Washington.

While they're waiting, they are looking elsewhere in the world for supplies.

C and W Systems is said to have gone to an Italian supplier for equipment for a communications system being installed in Asia for the Bank of America.

All Asian importers of American hi-tech equipment must face the export procedures but for many of them there are ways around the red tape barrier.

Regular exports from the United States can be covered by multiple licences and companies also overcome the delays by building up stocks and getting other orders into the pipeline.

But this is not possible, according to industry specialists, with some of C and W Systems' contracts because they often are one-off projects and an export licence must be applied for every time.

While Mr Cox, some American diplomats and possibly some American suppliers might be angry at last week's turn of events, telecommunications industry people in Hongkong generally are happy that the problem has been brought into focus.

JOINT MARITIME TELECOM SYSTEM CALLED GIANT STEP FORWARD

Hong Kong HONGKONG STANDARD in English 3 Jun 84 p 2

[Text] Hongkong has moved forward 60 years in the last three (communications-wise) with the introduction on June 1 of the Joint Maritime Telecommunications System.

The police force has now become the lynchpin of a new and unique communications network that has put Hongkong in the forefront of police and military communications.

The \$40 million project has already created enormous interest in the world of telecommunications and a similar system is now being devised for Australia.

"It's a unique system because it is the first to send both speech and printed data at the same time to relatively small maritime vessels through the use of hilltop receiver stations," said Mr Jim Ramsay, the man largely responsible for the project.

Not only is speech transmitted but computerised sets with screens on board marine launches show, in words, orders or information typed out and broadcast from marine headquarters.

Through this system not only marine vessels but shore bases and land patrols will be able to speak to their headquarters and to Royal Navy vessels, Royal Marine and army patrols, Royal Air Force and Royal Auxiliary Air Force helicopters and any other units who might be involved in operations.

"The system really comprises two radio networks. The first, called the command network, enables all major shore bases and major vessels to speak to each other. This net will be used for commands from the controlling headquarters.

"In addition, there are four portable headquarters which can be man-packed, carried in a vehicle or in a helicopter and set up almost anywhere.

"It is equipped with speech privacy to prevent eavesdropping by people such as snakeheads during anti-II (illegal immigrants) operations or even by the media during incidents," he said.

The second net, Mr Ramsey said, was a "relatively simple radio network which is used as a control net in conjunction with the command network and is controlled by the divisional commander at the scene of an incident.

He said the radio coverage of the territory was improved to eliminate blind spots to make this system workable.

BRIEFS

TIANJIN TELEPHONE EXCHANGE SYSTEM--Tianjin, 26 May (XINHUA)--A Chinese-made 10,000-line crossbar automatic telephone exchange system went into regular operation in Tianjin today after passing state examination. The facility, the largest so far built in this industrial center and sea port in north China, and its power supply equipment are the first ever produced in China, according to local authorities. The Tianjin exchange built nearly 60 years ago is being expanded and renovated to cope with the growing economic activities in the city. It covers 13,800 square meters and involves an estimated investment of 17.41 million yuan (about U.S.\$8.7 million). The exchange will eventually be fitted out with three 10,000-line systems, with the other two systems to be imported from abroad. Tianjin is investing 150 million yuan (about U.S.\$75 million) in improving its instant communications during the sixth 5-year plan period (1981-1985), local authorities said. Its target for installing 40,000 local lines during this period will likely be met by the end of this year. [Text] [OW261603 Beijing XINHUA in English 1450 GMT 26 May 84]

XIZANG SATELLITE GROUND STATION -- Construction of the first satellite ground station in the Xizang Autonomous Region is being stepped up in Lhasa. It is estimated that the station will be completed in the main by the end of this year. The project has been undertaken by the PLA's Xizang Military District. Video relay to the Xizang Autonomous Region from the interior is difficult, due to the great geographical distance between them. The Central Television Station's news programs, currently being aired by the Xizang TV Station are week-old recorded video programs. To change this situation, the state decided to build a satellite ground station in Lhasa. The projected ground station is located in suburban Lhasa, occupying 40 mu of land, with the total floor space of its buildings estimated at 5,500 square meters. Its main engine shop and auxiliary buildings have been completed, and construction of the whole project has proceeded smoothly. According to a source in the construction unit, machinery and other equipment will be installed in the coming October, if there are no unusual circumstances. The station is expected to begin experimental live relay of the Central Television Station's news programs on the evening of 31 December. [Text] [OW220616 Beijing Domestic Service in Mandarin 0900 GMT 20 Jun 84]

DAILY SEES ECONOMIC CRISIS MAJOR CAUSE FOR ENTELS'S PROBLEMS

Buenos Aires CLARIN in Spanish 26 May 84 p 10

[Text] The analysis of the situation of ENTEL [National Telecommunications Enterprise] by its general manager during his talk with the press is a clear example of the critical condition of government controlled enterprises. In this specific case, the data presents the paradox that while there are 260,000 unused telephone lines and there are plans to put into service 150,000 more lines ENTEL currently has the capacity to handle, with much good luck, not more than 120,000.

The report did not state the number of current applications for telephones but there is sufficient experience transmitted and shared by so many subscriber applicants who have been waiting for many years so that we may assume that their number exceeds the number of unused lines plus those which eventually may be put into service. The theoretical possibility and the practical impossibility of the telephone company satisfying those applications means a large loss of income for its hard-pressed budget.

According to the official, the impossibility of using the unused lines is due to the programming deficiencies of the enterprise during previous administrations since attempts to replace obsolete equipment were negligeable. Therefore, the condition of the equipment at the telephone exchanges and the critical condition of the external equipment, including underground and aerial cables, block distribution and equipment for connecting telephone receivers create a situation where each new addition causes more difficulties than there were before.

A large part of these difficulties are due to the poor condition of the lines linking the telephone exchanges which, added to the growing use of the national dial telephone system, creates "a fictitious utilization of the telephone equipment." This means that the entire system operates as if it were being used at maximum capacity while in fact it can only use a limited part of its capacity. In this way the cycle of financial losses and the technical difficulties spiral upward until the telephone system becomes paralyzed.

The repeated attempts to make a call required before making a connection are a reflection of the series of attempts to put an economic organization on its feet which can do no other than to reflect in turn the vicissitudes of the overall economic condition of the country and to suffer the consequences of its crises.

For years it has not been possible, due to lack of funds, to face up to the increasing obsolescence of ENTEL's equipment and installations. The enterprise has not been able to obtain these funds from its normal business operations and can get only a very small part of what it needs from a superinflated state organization which is also affected by the overall shrinkage of the economy.

The administrator announced that a review is to be made of contracts and of projects now underway which do not seem suitable or are affected by unbelievable delays. This is commendable but it should go hand in hand with a review of the fundamental policy which has guided the management of this state enterprise. An enterprise providing deficient service while causing losses is not properly serving the State, its subscribers nor the country as a whole and, as recent conflicts have made evident, is unable to pay its personnel adequate salaries.

Up to now it has not been possible to avoid the maintenance of a de facto monopoly, which is so costly to the State as well as to the taxpayers, by means of efficient competing private enterprises, but one should not overlook the possibility that in the future technological innovations in the field of communications may make this possible. It may be that the enterprise will not be able to meet the new demands, as is now happening in the experimental use of the national communications system via satellite which, according to the same official, suffers from malfunctions and breakdowns which gravely affect its operation.

The challenge to ENTEL is in fact a challenge to the entire country which must reorganize its productive apparatus and within that rejuvenated system it must relocate its communications systems through the use of both government management and private initiative. To this must be added that while the world is going through a revolution in communications, Argentineans live, to a great extent, incommunicado.

9204

ENTEL MANAGER POINTS TO EQUIPMENT OBSOLESCENCE, DEFICIENCIES

Buenos Aires CLARIN in Spanish 24 May 84 p 30

[Text] Mario Garcia, general manager of ENTEL [National Telecommunications Enterprise], reported that a review is being made of projects contemplated by ENTEL in an attempt to correct the "critical condition" in which he took over the telephone system in December 1983.

In statements made yesterday, Garcia said the government corporation has 260,000 lines of unused equipment in its telephone exchanges which cannot be put into use immediately due to deficient programming of the various activities which go into telephone projects.

The official stressed that the loss of profits which this situation causes is "more than US \$500 million; that is, the resources required for 2 years of development in this sector of entrepreneurial activity."

Garcia also said that what we are now seeing "results from the deficiencies discovered in the outdoors equipment which includes underground and suspended cables, block distribution and equipment for connecting telephone receivers."

The official found that the situation "was worsened by the obsolescence" of certain telephone exchange equipment and the deficient condition of the lines linking the telephone exchanges.

This fact, together with the growing use of the national dialing system, he said, creates a "fictitious" utilization of the telephone equipment, requiring more repeated attempts to make calls which results in saturation of the telephone networks.

Garcia said that the "not completed" calls result in loss of income besides disrupting services such as telex, direct international dialing of calls and data transmission which then frequently break down.

Unused Lines

The maintaining of lines of equipment in an "unused" status was attributed to "marginal pseudoprivatization" which resulted in delays in the completion

of projects first through the process of establishing the enterprises and then through the dispersion of the technical equipment and ENTEL specialist workers.

He said that the enterprise has 2,557,000 telephone lines installed and that the administration has resolved "to carry out a plan for adding new subscribers to reduce the loss of income due to the above-mentioned unused capacity."

The head of ENTEL said that only when the work of evaluation is completed will he be able to "predict" what equipment can be put into service this year and what future installation of equipment will be included in the medium-range future plan.

He reported that "to date, 453 localities in the interior have been added to the national dialing system."

Garcia said that in spite of the unsatisfactory financial condition of the enterprise, it is important to continue to put into service more telephone exchanges in the interior at the same time that policies are being worked out "to execute projects on the basis of financial collaboration agreements."

Finally, Garcia announced a plan for "improving services" to prevent difficulties discovered especially in Greater Buenos Aires, although the plan mentions priority to be given to the interior of the country.

9204

cso: 5500/2050

GOVERNMENT OUTLINES SHORT-TERM TELECOMMUNICATIONS PLANS

Georgetown GUYANA CHRONICLE in English 18 May 84 pp 4-5

[Text] Vice-President, Social Infrastructure, Hamilton Green, yesterday announced a number of "short term" plans for the development of the telecommunication system. Among them, are the improvement of the network with available resources and a minimum of off-shore inputs; the installation of small electronic exchanges; re-deployment of small rural exchanges for expansion at other sites and the upgrading of Tropospheric Scatter circuits.

In a broadcast message to mark the 16th International Telecommunication Day, yesterday, Cde Green spoke too, of long term plans, to utilise modern technology; establish a backbone system of junctions which will link Guyana with direct and alternative routing; digitalising the network; establishing a National Numbering Plan to cater for up to 480 000 numbers with linked numbering areas; providing an International Exchange and centres for switching border traffic and extending services to remote rural communities, and making provision for a new range of subscriber services.

"Some of our present limitations are shortages of spares and replacements for switching power, transmission and subscriber services, managerial skills, and professional commitments.

"But we look to the future with confidence and courage," the Vice-President said.

Earlier, he referred to communications as an important part of the World Information System that should be treated as part of the development process to strengthen the will and resolve of Guyanese while maintaining links with the rest of the world.

Cde Green said that as the system expands with the limited human and financial resources, and as efforts are made to maintain the existing infrastructure, Guyana must seek "not to isolate our people but insulate the society against cultural aggression of those who created slavery and who today maintain a stranglehold on international trade and financial institutions."

CSO: 5540/006

COMMUNICATION LINES WITH GULF AREA INCREASED TO 44

Tehran KEYHAN in Persian 30 May 84 p 3

[Interview with Engineer Mahmud Va'ezi]

[Text] Engineer Mahmud Va'ezi, managing director of the Iran Communications Company, who had headed a delegation on visits to Pakistan and Bangladesh, yesterday afternoon outlined the outcome of his visits in a radio-television-press interview.

At the outset he stated the Iran Communications Company's general policy of establishing microwave lines between Iran and Turkey and Iran, Pakistan and Persian Gulf states as well as close ties with Third World countries, noting: Thus, as a result of recent efforts of Iranian workers, Iran's communication lines with Persian Gulf states increased from 12 to 44.

Engineer Va'ezi then spoke about his trips to Pakistan and Bangladesh and said: Following the visit a few months ago to Iran of Pakistan's managing director for communications during which an agreement was signed, we went to Pakistan to discuss and assess the agreement and to visit various plants in that country. At the official invitation of Bangladesh we also went to that country where we held talks with responsible authorities.

He also said: During our visit to Pakistan and that country's communication plants and talks with officials, it was agreed that prior to international conferences, experts of the two sides should coordinate the joint positions of Iran and Pakistan so that they may be able to defend their positions at the meetings.

He added: The main topics of our talks with officials in Pakistan and Bangladesh concerned the establishment of microwave lines, exchange of technical information and communications personnel, as well as the supply of Iranian—made communications equipment and parts to Pakistan and Bangladesh and the purchase of cables from Bangladesh plants after due assessment of the quality of such material. Earlier, cooperation had been established with Pakistani officials regarding communication facilities between Iran and Pakistan. As a result a 1,800-line microwave tie-in will be set up between Iran and Pakistan in the near future, with the possibility existing of such a facility providing automatic transmittal of pictures. The use of such lines could provide possible communications with other Asian countries and through this means Iran can establish ties with European countries.

The managing director of Iran Communications Company said in a part of his statements: Up to now all our communications with other countries have been by satellite, this allowing other foreign nations easy monitoring of our talks and communications. It became necessary to use other means of international exchange.

Engineer Va'ezi then referred to his visit to Bangladesh and said: Following our visits to communications centers and plants, at the final stage of our trip we signed an agreement of understanding with Bangladesh officials calling for cooperation in communications and postal affairs, the dispatch of experts and the sale of Iranian-made communication equipment and parts to Bangladesh and came to an understanding and the need for assessment of technical specifications and quality of cables to be bought from Bangladesh.

5854

MAYSTADT VIEWS REGIONAL PARTICIPATION IN TELECOMMUNICATIONS

Brussels LA LIBRE BELGIQUE in French 25 May 84 p 2

[Interview with Philippe Maystadt, minister of Scientific Policy, by A.M.; date and place not specified. "Wallonia and Brussels Must also Participate in the Development of Telecommunications"]

[Excerpt] Philippe Maystadt is minister of the Budget. Another of his duties is scientific policy, an area that is discussed very little but essential for the future of Belgium and Europe. A single example: the development of telecommunications.

[Question] Michel Albert, the "guru" of the Belgian government, gives a rather negative image of Europe: national individualism, technological lag, lack of cohesion. While the former French planning commissioner indicates a series of lines of inquiry, reading his book "Pari pour l'Europe" [A Wager for Europe], reflects a certain defeatism. What do you think of it?

[Answer] I did not feel the same way reading "Pari pour l'Europe." Of course, the diagnosis is clear: failure of the European policy results in lack of growth. Any nation that wishes to carry out a recovery policy alone is assured of defeat. But, in the second part of his book, Michel Albert draws the outlines of a common strategy for recovery. He indicates how, on the European level, additional growth can be obtained. Specifically, it involves the creation of a European space for industry and research.

The success of the Ariane rocket proves it. Because it pooled its potential, Europe now has its place in space. On the other hand, due to lack of cooperation, it is behind in information sciences, biotechnology, chemistry, etc.

[Question] And in the area of telecommunications? Michel Albert says that the telecommunications market constitutes an important economic stake for Europe. How do you see the role of Europe and...of our country where decisions must also be made in this area?

[Answer] On the European level, the biggest obstacle is standards. At the moment, each nation defines its own standards, promotes its national champion

and practices a policy of protectionism so that it is much less difficult for a European manufacturer to sell his telephone exchanges in Latin America or Asia than in another member nation of the European Community.

In Belgium, the government has repeatedly affirmed its will to carry out a policy of redeployment in the telecommunications sector. The renewal of the accord relative to telephone switching, which represents orders on the order of 10 billion [Belgian francs] per year, provides the opportunity to redefine our policy in the matter, and also to raise certain questions.

[Question] Which ones?

[Answer] First of all, what is the market? How will it develop? What is the demand and at what price? Today, the answers to these questions are often unknown and certain decisions are being made under the illusion that the consumer will follow. The engineer and the economist must work together.

Because they were not sufficiently attuned to this latter aspect, France and the United Kingdom have had to admit a relative failure in the telematics experiments that they have undertaken. Not a technical failure but an economic one in the sense that private consumer demand did not materialize.

A second question to raise: what products would make it possible to meet consumer needs? How long will the current products remain competitive? In the area of telephone exchanges, for example, will digital exchanges, which are so highly competitive now, still be so after 8 years?

Finally, exploring the products naturally leads to exploring the suppliers. A long-term commitment to one or two suppliers, as is currently the case for telephone exchanges, leads to questions about whether these suppliers will be competitive for the entire duration of the accords and to what extent they influence administrative and political decisions beyond the contractual limits.

[Question] To claify, you are alluding to the importance of Bell, an importance that is often judged excessive by the Walloons. The Walloon executive officer demanded 40 percent of the orders for the Walloon region. What do you think of that?

[Answer] It is currently estimated that 73 percent of the suppliers of the RTT [Belgian Telephone and Telegraph Agency] are from Flanders, 2 percent from Brussels and 25 percent from Wallonia. And that, in the latter region, it is primarily cables that are involved, which is a declining activity.

It is obvious that such a situation raises problems, specifically in the context created by Flemish demands in the aeronautical field. I often say that the main adversary of Bell is FLAG [Flemish Aerospace Group].

Having said that, I can still dare to hope that we will be able to find, in aeronautics as in telecommunications, a solution that I call "rational," that is, a solution that gives a region chances to develop in a new sector without

prejudicing what has been developed in another region. From this standpoint, I think it is absurd to attempt to achieve a regional balance order by order, market by market.

In telecommunications, there is not only telephone switching. There are also transmission, terminals, new services. There are also all the developments related to the integration of sound, data and image and the gradual coordination of the various networks. It is for the over-all picture that a better regional balance must be sought.

But make no mistake. The attempt to find a rational solution must not place our determination in doubt. The renewal of the accords on telephone exchanges gives Wallonia and Brussels a chance to enter the vast area of telecommunications. We expect to seize this opportunity, simply because we too have the duty to prepare for the future. [...]

9969

PROBLEMS, DELAYS IN FRANCO-GERMAN 'TV-SAT' PROGRAM

Hamburg DIE ZEIT in German 4 May 84 p 17

/Article by Heinz Bluethmann: "Falling Star. TV Satellite: Postal Service Gives German High Technology No Chance"/

Text/ Five years ago Germany led the world with its engineering wizardry--jubilation abounded. There was the promise of a glittering industrial export business in the amount of several billion marks. Even ordinary citizens had reason to celebrate: It would now be technically feasible for anyone to easily receive many new television channels at once, both domestic and foreign, from Flensburg to Constance--all without cable.

Such fabulous opportunities were promised by a revolutionary TV satellite whose signals could be received directly in any home with a small parabolic antenna with a diameter of 60 to 90 cm. It was, therefore, designated a direct broadcasting satellite. The official name of this magnificent engineering fact: TV-Sat. At a height of nearly 8 meters, a width of 20 meters including the solar panels and a launch weight of 2.3 tons, a true giant.

"The FRG is ahead of all other nations in the development of the new broadcasting technology," wrote DER SPIEGEL at the time. They continued triumphantly. "For the first time, the FRG has exceeded even the superpowers in space with its high-flying transmitting device." The Ministry of Research and Technology in Bonn, which sponsored the TV-Sat with 250 million marks, slipped into the language of international aviation when it proudly reported this great accomplishment in English, "We are ahead of the Americans."

Project development managers Dietrich Koelle and Hans Kellermeier of the aviation and aerospace concern Messerschmitt-Boelkow-Blohm (MBB), the managing firm, at that time estimated Germany's headstart over the competition to be "at least 2 years." In order to maintain this advantage, the launch of the first prototype TV-Sat 1 was planned for around the end of 1982 or beginning of 1983 from the Kourou launch site in French Guyana. Based on close cooperation between the Germans and the French, a twin satellite of identical design for France would follow shortly thereafter.

Today, 5 years after its optimistic entry into a new television age, the highly touted German giant satellite has lost much of its former glitter. Firstly, it is still on the ground and not even completely built. Second, a Japanese competitor stole the show at the beginning of the year with a space first. And third and worst of all, this high-tech product has become a burden to the postal service—they do not want it any more.

Let us look at these problems in order. The sole reason for the delay, said project manager Kuno Schneider of MBB openly, is "technical problems." The engineers from MBB, AEG-Telefunken and the nationalized French firms Aerospatiale and Thomson-CSF, who all worked together on TV-Sat, soon decided that the original deadlines were too ambitious and could not be met.

In particular, it took longer than expected to obtain the necessary parts from around the world, parts which have particularly high reliability requirements, as is always the case in the space business. Standard mass-produced products such as translaters, for example, are not acceptable—they must be custom made. Also the "sheer size of the satellite" (Schneider) created unforseeable difficulties and caused delays. From the beginning, the technical experts at MBB and Co probably bit off more than they could chew.

The conversion of this once purely German project into a cooperative effort with the French, agreed upon in April 1980, likewise caused delays. Choosing his words carefully, Schneider indicated that this development caused the project to proceed "no faster." In the technical journal FUNKSCHAU, Prof Karl Tetzner, an expert on the subject, said more concretely that the main reason for the delay was "deadline problems...by Thomson-CSF" in supplying the major components for the satellite transmitter.

As always in such cooperative efforts, the slowest party determines the tempo of the project. Today, project head Schneider gives the "final" launch date for the German TV-Sat as the "end of 1985." That is a 3-year delay.

In the meantime, the competition has not been sleeping, but has used this delay to its advantage. The Germans have already missed the chance to place the first direct broadcasting satellite for TV in space, because at the beginning of this year the Japanese unexpectedly beat them to it. On 23 January, from their Tanegashima Space Center, they placed a television transmitter into a geostationary orbit at 36,000 km which can do precisely what the German designers of TV-Sat had in mind--broadcast TV and radio programming directly from space into the home and thus eliminate the need for cable.

Despite everything, MBB manager Schneider is convinced. "We are still ahead." His conclusion is based primarily on a comparison of transmitter

power. The Japanese Yuri 2a satellite broadcasts at only 100 watts. Schneider: "That is adequate for clear reception with a 90-cm dish only if no stronger neighboring satellite causes interference." The German TV-Sat is designed for twice the power.

Transmission power requirements depend on the proximity of one's neighbors. Japan has no bordering nations which could interfere with transmissions, and for its own purposes can make do with relatively low power. Export opportunities, however, are few. Schneider: "In Europe, where there are many small nations, and even in the United States, where more intense competition requires it, the demand is for higher power."

And neither the Japanese nor the Americans can-as yet-provide this. Regardless, it seems somewhat euphoric to call Yuri 2a Japanese, since Japan, unlike the Europeans, is extremely dependent upon American technology in terms of satellites and rockets.

Thus, the fact that it was the Japanese who first launched a direct broadcasting satellite appears in actuality to be little more than an image-promoting formality, but in no way a decisive factor in this important high-tech race between the highly industrialized nations.

In a commercial sense, however, the Japanese will have an advantage in the coming billion-dollar business in private receiving equipment. A dozen Japanese concerns, particularly in the field of entertainment electronics, are already constructing production facilities for the new parabolic antennas and the necessary accessories for bringing the satellite transmissions to the commercially-available TV screen.

In Japan where Yuri 2a will begin transmitting from space this month, the price for such an equipment package will still be DM 2,500. However, mass production will quickly provide for reductions in price; experts predict DM 1,000 or less within a year. This is dangerous for competing industries in Europe and the United States for this reason—early on the Japanese will have a high production capacity and with cheap prices will be able to flood all the markets which direct broadcasting satellites will subsequently open up in the New World and Old World alike.

It is precisely this expected development, curiously enough, which the French postal authorities are now using as an argument against the development of the direct broadcasting satellite together with Germany. The word in Paris is that this project is only lending support to Japanese exports to France. The real reason for rejection of European high technology, however, is something else entirely: it is the fear of the politicians of too much freedom—not just in France.

Only when a nation is interconnected by cable can undesirable programming from outside the country be prevented from airing. Otherwise, said the British magazine ECONOMIST, "governments would lose control over what their citizens see."

Even German Postal Minister Christian Schwarz-Schilling, is opting for outdated copper cable, at 1 billion marks annually, even though the TV-Sat could do the same thing faster and more cheaply--namely, bring additional TV programming into people's homes.

To promote both the cable system and TV-Sat at the same time makes no sense. It is no wonder that Schwarz-Schilling will not release another pfennig for the showpiece of the German aerospace industry.

The once celebrated star, the German TV-Sat, is as good as finished as far as the postal service is concerned. In a long, recently published comprehensive article on "Developments in Telecommunications" by Federal Postal Secretary Winfried Florian, TV-Sat was not even mentioned.

12552

SUCCESSFUL PENETRATIONS OF U.S. TELECOMMUNICATIONS MARKET

Paris LE FIGARO in French 11 Jun 84 p 6

[Article by Charles Haquet]

[Text] Two initiatives, one from Thomson (nationalized) and the other from SAT (Societe Anonyme de Telecommunications) (private sector), show how mastery of the telecommunications market in the United States can be achieveed in several ways.

Videographic Systems of America (in which Thomson has a 51 percent share) wants to use the Olympics to launch teletext and videotext services, just as in the past, television promotion in France began with a retransmission of the Queen of England crowning ceremonies, which the gawkers watched in store windows as if transfixed. They will show in several American regions, how to use a decoder to obtain the latest trial results, with times and classifications appearing on the television screen.

Antiope type systems have already been sold to allow television stations to offer local information of about 50 pages. The latest contracts have been signed with television stations in Los Angeles, New Orleans, and Charlotte.

To form Videographic Systems of America, Thomson left room in the company for Cap Gemini and Steria (13 percent each), TDF (Television de France, 8 percent), and so on, thus allowing it to export complete systems and sell software as well, instead of supplying only decoders and data transmission networks.

Japanese decoders are already available on the market for \$500, but once the new generation of components becomes available, they will cost less than \$100 each. Thomson has announced prototypes of its decoders for mid-1985, and they will be mass produced at Thomson's television plants in Singapore and Malaysia.

Experts estimate the rate of penetration of teletext in television to be similar to that of videotape: 10 years to equip 20 percent of the American households.

Videographic Systems of America, which is thus American only in its name, believes it has an 18-month lead over its American and Japanese competitors. the United States has its NABTS standard, which will probably be that of most of the world's markets, and that is naturally the one with which Thomson is working. For the other customers, and notably in Europe, the governments have not yet made their selections, hesitating between the French and English teletext and videotext standards (Antiope/Teletel or Ceefax/Prestel). The French and American standards will be compatible.

The teletext market is considerable if one realizes that there are 250 million television sets in the world.

For Wall Street

SAT has been assigned the displays thanks to its major role in the Biarritz operation, the city cabled with 10,000 km of optical fibers, and which now has the visiphone (telephone which lets speakers see each other). It has acquired a large share in IPC (Interconnect Planning Corporation), a solid American company which covers 80 percent of the stock market quotation reporting in the United States. It manufactures the special telephone equipment which allows the stock market community to remain in telephone contact, with the broker being able to speak to different buyers and sellers at the same time.

IPC's customer list is Wall Street's Who's Who. SAT's plan is as follows. It acquired at first 40 percent of IPC, leaving all its managers and its system in place. No change except for the wish that part of the investments be reserved to adapt French products to American standards, notably private exchanges such as the Telecom 25 manufactured in Bayonne, the Telecom 100, and the Telecom 300.

In its trade with the United States, SAT has so far limited itself to selling and exchanging licenses, notably for analog multiplexing and for improving coaxial cables.

The deregulation of telecommunications opens extensive possibilities to equipment manufacturers, as long as they don't ignore the specificity of the American market. And each one has his own strategy.

11,023 CSO: 5500/2722

INCREASING INTEREST IN 'BUSINESS SATELLITE' COMMUNICATIONS

Paris LE NOUVEL ECONOMISTE in French 25 Jun 84 pp 40-42

[Article by Anne-Marie Rocco: "Companies Conversing Via Satellite"]

[Text] The business satellites are coming. And with them, a tide of teleconferencing and other telecopying... For the PTT [Post, Telecommunications and Broadcasting Administration] the challenge is commercial rather than administrative.

One minute and 15 seconds to transmit a press photograph from Paris to Nice, compared with half an hour today... A Paris press agency has just put the final touch to a project for the satellite broadcasting of its illustrations. Instead of filing the usual contact plates, the agency will store its photographs in a computer, and each picture will be coded in machine language. Wherever they are, its correspondents will be able to access this documentary database using a mere data-processing terminal with a high-resolution color screen. The picture chosen will be immediately reproduced at the client's office or at the agency local bureau, thanks to a special terminal called "visorfax." Science fiction?

Not at all. Technically, no obstacle to applications of this type will remain as soon as Telecom 1, the first French telecommunications satellite, is placed on its geostationary orbit. That is to say, in the very near future. Barring any unexpected circumstances, the satellite—for which MATRA [Mechanics, Aviation and Traction Company] acted as a prime contractor—will be launched by the Ariane 1 rocket next 4 August from the Kourou base in Guiana.

This will be a premiere for the French PTT, but also for the companies for which Telecom 1 is essentially intended. Indeed, this is a business satellite, very much like the U.S. SBS satellite that was launched three years ago by IBM and Comsat. Half of its 12 repeaters—these "mirrors" that capture and broadcast data—are designed to serve new business communication means: computer data transfer, videoconferencing, rapid telecopying, etc. The PTT and the Ministry of Defense will share the other six repeaters.

Business satellites? The subject is well and truly... in the air. Intelsat, the organization which manages the international satellite communications system, is meeting this month in Honolulu to study the possible introduction of new worldwide services, especially data dissemination.

Range

In Japan, where the state will soon abandon its monopoly over telecommunications, 50 companies just announced they would associate to acquire their own satellite in the United States. It will be launched by NASA in 1986, at a total cost of \$220 million. Satellites today, optical cables tomorrow: business communications are entering a new era. French employers, meeting in Biarritz on 19-22 June at the National Business Audiovisual Equipment Festival, had the opportunity to appreciate their potential range.

March 1983: in the United States, the Holiday Inn chain gives an unexpected premiere when it brings together the same day the 16,000 people it employs on 3 continents. Key to that miracle was a videotransmission satellite broadcasting the event "live" to a number of points equipped with receiving stations, and enabling the public to join in the discussion.

February 1984: the Peugeot Automobile Company is introducing its new model, the 205 GTI, to all its dealers who have also been brought together through videotransmission. But this time the picture is transmitted through traditional radio-relay systems which are quite as reliable but not as expensive as satellites when a great many locations are to be reached.

August 1984: the launching of Telecom 1 will open the era of satellite video-transmissions to users in France. This is the most spectacular of the French satellite applications. But certainly not the only one.

Until now, the most common form of group communication was audioconferencing during which participants are talking from distant locations without seeing one another. This method has its adepts, like the Dijon Higher Business School which uses it to bring together trainees working at various locations. The next stage, videoconferencing, does not have many users yet. The satellite should help it take off. Telecom 1 will offer a complete range of remote transmission services, the recitation of which is a jingle of words beginning with "tele": telephoto, telecopying at the rate of 5-10 seconds per page (instead of at least 3 minutes today), teleconferencing (with or without picture), computer-data teleprocessing, teleprinting.

One example taken from the U.S. press. The HERALD TRIBUNE, the international subsidiary of the WASHINGTON POST and the NEW YORK TIMES, is using services of this type for its two Asian editions in Hong Kong and Singapore. In the United States, the daily USA TODAY is published in 15 different towns through the Westar III domestic satellite. This newspaper was created in 1982 and now has the third largest circulation of all U.S. newspapers.

"Telecom 1 means integrated services with a 10-year lead," we were told by Mr Jean-Francois Deschamps, the young marketing director of the French program. Other branches of the telecommunications industry will not reach their objective until the end of this decade; that objective is the same for all: using one and the same channel to transmit voice, images and computer data. Nowadays, all these operations require the installation of costly specialized cable links such as Transpac (conversation between terminals), Transmic (computer file transfer) or Caducee (audioconferencing).

Language

To integrate these various elements, they must first be given one and the same language, that of data processing, coding voice and images in digital form. Switching specialists, who are equipping the PTT surface network, are working on such a language for future generations of telephone exchanges, to be introduced around 1990. But very high transmission rate systems must also be designed to absorb the extremely complex data to be transmitted.

The surface transmission support to meet these requirements already exists: it is the optical fibers which the PTT are beginning to use for telephone links; 20,000 km of optical fibers are already running in the Paris underground. The U.S. company AT&T, which will install the first optical cable under the Atlantic by 1986, is also proposing to use it to establish a teleconferencing system between the United States and Great-Britain. In France, the primary objective of the Cable Plan is teledispatching to the public at large, but it also covers business communications.

According to Mr Camille Veyres of the Delegation in charge of Videocommunications: "Optical fibers have the property of transmitting data as fast as computers will compute. Therefore, they can be used to share data-processing resources: filing, computing or computer-aided design systems." In Japan, for instance, Kyoto kimono manufacturers are sharing a single computer-aided graphic design system which also optimizes fabric cutting, calculates costs and prepares estimates.

The Opera Exchange

Another assumption: many catalog sales companies still hesitate to computerize their catalogs and make them available to the public through Minitel-although La Redoute is doing so-because they feel an essential element is lacking: pictures. With optical fibers and videodisks, which can store up to 54,000 fixed images, that obstacle would be lifted. But not right away: it will take 5 to 10 years to install cables in most large French urban centers.

Some 100 years ago, the first telephone exchange installed in Paris connected only a few privileged inhabitants of the Opera district. France now has 22 million telephone subscribers. Telephone has become commonplace. Will the new communications means using images follow the same road? Mr Alain Giraud, technical advisor to the minister's, Mr Louis Mexandeau's staff, believes so: "Cables and satellites are complementing each other in time," he explained, since satellites already provide services that cables will not be able to provide for another five years. But eventually it will be possible to switch part of Telecom 1 services to the network, leaving specific services to the satellite. For instance, very long distance connections or videotransmission." And how will cabled zones be connected to one another? Through the satellite, of course!

Which was to be proved. All the same, critics will point out that maybe it was not necessary to complete both projects at the same time: cables

(FF 50 billion over 10 years) and satellites (FF 3 billion for Telecom 1 and nearly as much for TDF 1, which will broadcast TV programs starting in 1986). Of course, it is easy for the Administration to answer that the telephone equipment plan started in 1975 did represent a financial effort of FF 140 billion over 5 years. But 10 years ago France was underequipped and had a pressing need for the telephone. In 1984, are cables and satellites as urgent as the telephone was?

Imitators

Times are changing. "Until now, the PTT were trying to meet users' requirements," Mr Deschamps, who is in charge of the Telecom 1 marketing, answered. "They must now try to lead them." This is a commercial rather than an administrative approach.

There is a reason for that: to a large extent, international competition is dictating this communications race, a peaceful version of Star Wars.

Telecom 1 is the answer of a public monopoly which wants to hold its ground against the U.S. SBS satellite and its imitators. Even the cabling of French towns, apparently a purely French problem, might become international. Did not the Chase Manhattan Bank submit a "turnkey" cabling project for the capital to the mayor of Paris?

Both offensive and defensive, the PTT strategy is not entirely devoid of risks. For the new services provided by the Administration are not guaranteed to be as profitable as the telephone, which not so long ago made the DGT [General Directorate of Telecommunications] the French enterprise with the largest profits. A position that enabled it to continue investing without making excessive debts and to play the role of an industrial strategist.

Today, the financial blanket of the PTT has considerably shrunk. Until now, cable teleconferencing has met with only moderate interest. Will Telecom 1 reverse the situation? In the United States, the SBS project was not as successful as its promoters had expected. And the first of the business satellites had to reorient its operations... toward more traditional telephone services. Had it been misdirected, or did it expect too much from the market? At a time when technologies keep pushing back the limits of what is possible, investing in communications remains essentially an industrial and commercial venture.

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TELEPHONE EXCHANGE ORDERS SLOWED

Paris LES ECHOS in French 14 Jun 84 p 11

[Article by V. L.]

[Text] "Telephone manufacturers must concentrate all their efforts on exportation and diversification. Otherwise, they will find themselves faced with employment problems." This is what is on everyone's mind since a task force for industrial reconversion was formed for telephones, just as the one established for the automobile industry; and this is what Louis Mexandeau, minister of PTT, wanted to firmly point out to the entire profession gathered for its annual review.

With a revenue growth of 16.5 percent, and especially with exportations which have jumped by 44 percent to 4 billion francs, leading to a positive trade balance of 3 billion, the industrialists have apparently nothing to worry about. But the 1983 results are due to orders received in 1982, including the large Indian contract.

Last year however, exportation orders weakened, and a 17.5 percent increase in activity was obtained only due to orders from the French domestic private market, and to a delay in reporting PTT orders for the fourth quarter of 1982.

The fine break-through of the French telephone industry on foreign markets in 1982 was thus followed by some disappointments. And with the Chinese contract which is curiously dragging on, the level of orders received in 1984 does not promise to be much better than in 1983.

Regain the Audiovisual Sector

On the other hand, the geographic distribution of exportations is of some concern. Only one-fourth went to European industrialized nations, and 4 percent to the United States. The bulk of the rest goes to Asia, with 41 percent to Oceania and 20 percent to Africa. In 1982, Iraq alone received 19 percent of the French telephone industry deliveries.

1983 (in million francs except for taxes)

	Revenue	Orders received
Domestic PTT	9,833	10,344
Others	5,955	6,360
Exportation	4,003	3,960
Total	19,841	20,644

"It is no longer the certitude of public orders that will assure most of the growth," Mr Mexandeau cautions the profession. "Will the French telephone industry be able to withstand a strong current of market deregulation? We have to think about that."

The progressives propose shorter marketing delays for products coming out of laboratories. The minister of PTT pleads for "reconquering certain abandoned consumer product sectors, such as the audiovisual field."

Everyone speaks of the need for efforts, of the spirit of enterprise, of undertaking great projects. But in the international telecommunications industry all the cards have essentially been played. And the hope of seeing France expand its influence in Europe is declining.

This is the concern voiced by Mr Mexandeau today, while the telephone industry is also being drained of its jobs day by day.

11,023 CSO: 5500/2722 RAPID INCREASE IN TELECOMMUNICATIONS EXPORTS

Paris LE FIGARO in French 14 Jun 84 p 14

[Article by Charles Haquet]

[Text] The French telecommunications industry is a little like a beatifull sunny day in a rotten springtime. In a dull economic picture, it is an activity that has more than tripled its exportations in four years (exceeding 4 billion francs), for a growth rate of 44 percent during the last fiscal year, a rate that is among the highest for the French industry as a whole. Exportations are thus five times higher than importations, the balance being positive even with the United States.

These 1983 results, reported by SITT (Union of Telephone and Telegraph Industries and of Their Telematic Applications), show how this profession had to turn to the outside as PTT orders continued to drop (50 percent of sales compared to 67 percent five years ago) and as orders from the French private sector did not increase as needed (+11.7 percent). In fact, turnover for the whole telecommunications industry grew by 16.3 percent in 1983, against 12.3 percent the year before. But the international competitition is waking up, and the big boys are flexing their muscles. The level of new orders thus stagnated in 1983, with somewhat fewer large contracts (-3.1 percent).

Nevertheless, our telephone sellers still have more than 6 billion francs in foreign orders. Even if the good results of 1983 are not repeat entirely, a favorable growth should occur. Moreover, the slight possible drop in exportations will be compensated by the first PTT equipment orders for telematics and office automation.

The president of the union, Mr Boulin, wanted the administration to pursue its "large projects in advanced technology, which offer the telecommunication manufacturers a field of action sufficiently broad to allow them to demonstrate their competence, and to provide an indispensible foreign showcase for the credibility of their equipment."

Mr Mexandeau, who was present at this meeting, noted that many of our foreign competitors have poorer high technology products than us, but that they nevertheless achieve higher revenues because they offer a larger number of conventional products. And for the minister of the PTT, an increase in the number of products offered seems one of the major solutions for the social problems raised by the considerable productivity growth in this industry.

11,023 CSO: 5500/2722

BRIEFS

NEW SATELLITE MANAGEMENT COMPANY -- We have learned from an authorized source that the French government, determined to successfully complete the direct television satellite project TDF-1, will establish a "French satellite company" which will be "the agency responsible for negotiating with all public and private partners about the four channels of this satellite." This follows the 25 May announcement of Luxembourg's engagement in the GDL satellite project along with the United States, while the Grand Duchy was negotiating for several months with Paris for participation in TDF-1. A race thus began, and Georges Filloud acknowledges that the winner will have a great advantage: "TDF-1's launching will take place in November 1985, and the satellite will be operational during the first quarter of 1986." This would allow French microelectronics to gain several months over its Luxembourg competitor, whose launching is planned for August 1986, according to the secretary of state. However, Mr Filloud did point out that France "would still like to have an agreement with Luxembourg." Another meeting is scheduled for the end of June, but not under any and all conditions. "We are saying to Luxembourg: if you want to have an understanding with us, drop the operations which place in competition the two French-speaking and German-speaking channels of TDF-1 financed by advertising," channels which were the subject of negotiations between the Grand Duchy and CLT. Pierre Werner, Luxembourg prime minister, has given assurances regarding the French-speaking channel, but not concerning the one in German. [Text] [Paris LES ECHOS in French 7 Jun 84 p 16] 11,023

VAN AARDENNE ON INFORMATION TECHNOLOGY STIMULATING PLAN

Amsterdam ELSEVIERS WEEKBLAD in Dutch 2 Jun 84 pp 15-17

 $\overline{/\mathrm{I}}$ nterview with G.M.V. van Aardenne minister of economic affairs, by William Kraan: "If a Concrete Question Is Asked Here, Then We Can See What We Can Do"; date and place not given/

/Excerpt/ The market sector? Almost sacred. Stimulation? Everything in moderation. Government initiatives? "Society has to cry out." Requests from the Chamber? "O.K., but the Chamber is not society." That is the opinion of model liberal G.M.V. van Aardenne. The head of Economic Affairs Ministry also applies it to technology policies.

/Question/ In January you, together with your colleagues from Education, the Ministers of Science and Agriculture, presented the information technology stimulating plan. In it the Ministries of Home Affairs and Transport and Public Works were conspicuous by their absence. Home Affairs coordinates government purchases, also where automation is concerned, and the PTT /Post, Telephone and Telegraph/ comes under Transport and Public Works.

/Answer/ As far as the Home Affairs Ministry is concerned: the Pannenborg committee is currently looking into the role the government as a big customer, can play in automation. But we did not want to sit and wait for it, so that had to follow later on.

The fact that the PTT is not present...well, that is true. But in this case information technology comprises much more, of course, than only telecommunication. Of course, telecommunication is part of it but in this case the point is how information technology can start playing a bigger role for trade and industry, on the one hand, and, on the other hand, how we can see to it that enough people are trained in this field in order to be able to practice it. Of course there will be a time when the gap will become smaller; that is why we have a ministerial committee for information policy but "qui trop embrasse malietreint' /one should not bite off more than one can chew/.

/Question/ In other words: One should not bite off more than one can chew. Nevertheless, telecommunication and information technology are becoming more closely interrelated. A good example is digitalization of the telephone network. While listening to you, I get the impression that information technology and telecommunication have come closer together than your department realizes. In industry these matters are no longer considered independently.

/Answer/ That is right but, of course, the plan contains quite a lot of simple information technology for small firms. It is true that youths learn to work with small computers but small and medium business is sometimes afraid of them. Then they fall behind and then they will need to be stimulated again. These are areas which have much in common but which can still be differentiated.

Fragmented

Question/ The fact that Europe is behind as far as information technology is concerned, is partly due to the lack of a computer network connecting the research centers in this field.

/Answer/ I believe that that may also be a factor but the fact that Europe is behind can mostly be traced to the fact that Europe is fragmented, that every country works with its own national orders—for, it is true that the PTT places tremendous orders in this respect—and that no standards are agreed upon. And therefore, the informal industry council recently said that we should do something about it. Here also I state: the PTT's are needed for this. But in every country the PTT is a somewhat screened—off unit and the ministers of industry took action in this case. In this case it was the French minister who was chairman.

 $\overline{/Q}uestion/$ There was no attempt beforehand to involve the PTT in the plan?

Answer No, you know that it consists of two parts. As a matter of fact the educational part was drawn up by the Ministry of Education and Science and the other part was drawn up jointly. Then it was discussed in the Council for Science and Technology, in which Transport and Public Works and PTT are also included. But at the same time they had some trouble with the Swarttouw committee and such. Of course it is all interrelated. Now the Steenbergen committee is investigating the entire PTT structure. I was one of the people who instigated it. It was suggested that the PTT should certainly get a structure that it can adapt itself and not be a restraining influence. On the one hand, the PTT is a body where a tremendous amount of knowledge is stored but that knowledge should also be useful to society. It should not only remain in the PTT-chamber and, therefore, the way in which the PTT operates, is very important. That is the background of the Steenbergen investigation.

Joke

Question/ There are no concrete stimulating plans in the part of the stimulating plan covering the market sector. The concept of a policy which creates conditions is trumps. Do you know the joke which goes the rounds in your ministry? They say that the conditions-creator has to be at the side of the building because the policy should also be flanking.

/Answer--after a brief silence/ "That is a neat, complicated joke."

 $\overline{/Q}$ uestion/ That is because there are such intelligent government workers at your department.

/Answer/ Undoubtedly, undoubtedly. But I thought that the "flanking" concept does not belong in our department. It actually comes from the Social Affairs Ministry. Albeda always used to say flankirend /sparkling/. Originally the concept of flanking policy was used when unpleasant measures for cuts were taken. Then, if you added something pleasant, that was flanking. But look, the background of the condition-creating policy is that in the end one has to put faith in society, in the market sector itself. If it does not respond, one can stimulate indefinitely but it will not result in anything. I have faith that it will respond. But we need to see to it that there are people who know what they are doing. If there are no courses and, if nothing else, short updating courses and such things, then it is not possible. That is very obvious. Further, there also needs to be penetration of apparatus and it should be aimed at the users. They have to know how to handle it and which possibilities need to be present. That is what condition-creating policy is. And if there is no response then, well, then nothing has been achieved. But that will not happen, there will be a response; except perhaps for a couple of firms, but the competition will show them the consequences.

Relations

Question/ Your colleague, Mr Deetman, noticed that foreign firms located here, reacted much faster to the information technology stimulating plan than Dutch firms.

/Answer/ Yes, that may be true. Therefore, it is very useful to have foreign firms over here, because they have a radiating effect. People who have worked for those foreign firms, also join Dutch firms sometimes and take along that attitude. Therefore, I say that foreign firms have to be brought in, not only because of employment but also because in that manner a number of new attitudes are brought into the country which can be beneficial.

 $\overline{/\mathbb{Q}}$ uestion/ Apart from creating favorable conditions, industrial circles feel a need for somewhat more concrete support. For instance, project management from the side of the ministry.

/Answer/ Yes, we could talk about it of course. We have done that before, putting a number of people together and producing documents. But there has to be a real desire to do something and in the end they do have to do it themselves, otherwise nothing will happen. Suppose we see a magnificent area for attention and we set up for it a project management which will supervise things; that is not the way it works. I am very much convinced that that will not achieve anything and that many activities and much inventivity are wasted. One needs to react to stimuli from the market sector, and if a concrete question is asked here, then ofcourse we can see what we can do.

/Question/ As early as 1981, the Second Chamber asked for an Institute for Advice and Research into Applied Information Technology.

/Answer/ I am always somewhat afraid to create new institutes. Maybe the task of that institution could be within the scope of other institutes which are active now. I am always afraid that something like that will create friction again. One needs to look at what is really needed in society, and only if such an institute is really needed for it, does it need to be done. I believe that at this point the information technology stimulating plan is the answer.

 $\overline{\mathbb{Q}}$ uestion While discussing your budget, the Chamber repeated that request.

/Answer/ Yes, but of course the Chamber is not society. (For a little while the minister looks pensively at the ceiling.) It is self-evident that it represents the citizens but it is not society. That is where such a desire should originate.

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BRIEFS

FIBER OPTICS CABLE INSTALLATION -- Portugal now has 12 km of optical fiber cable for telephonic communications in a section which is linked to the nodal station of Marinha Grande. Raul Junqueiro, secretary of state for communications, was present at the installation of the cable which occurred between Leiria and Marinha Grande and will make it possible to operate at a maximum speed of 480 simultaneous channels for each pair. The double cable was supplied by a Dutch firm, and the laying of the cable is being headed up by Portuguese engineers from the CTT [General Administration of Post Offices, Telegraphs and Telephones]. "The introduction of this type of technology will make it possible for our national technicians to learn from within, inasmuch as they will be able to study experimentally the latest innovations in the field of transmissions," a CTT official observed. This high-technology digital transmission equipment will make it possible to put 180 telephonic channels into operation which, in addition to Leiria and Marinha Grande, will serve the networks of Pataias and Sao Pedro de Muel. This new cable technology is providing for better quality in the telephonic transmission service, the absence of all noises and interferences and an almost unlimited number of simultaneous calls. [Text] [Lisbon DIARIO DE NOTICIAS in Portuguese 14 Jun 84 p 11] 8568

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